

[illegible]

**THE**

[illegible][illegible]

**THE**

[illegible]

**THE**

[illegible]

1            15. A single-stranded DNA comprising a portion of a  
2 parathyroid hormone receptor gene, said portion being at  
3 least 18 nucleotides long.

1           16. The single-stranded DNA of claim 15, wherein  
2 said portion is less than all of said parathyroid hormone  
3 receptor gene.

1           17. The single-stranded DNA of claim 15, wherein  
2 said DNA is detectably labeled.

1           18. A single-stranded DNA comprising a portion of a  
2 parathyroid hormone receptor cDNA, said portion being at  
3 least 18 nucleotides long.

1           19. The single-stranded DNA of claim 18, wherein  
2 said DNA is antisense.

1           20. Parathyroid hormone receptor produced by  
2 expression of a recombinant DNA molecule encoding a  
3 parathyroid hormone receptor.

1           21. An essentially purified preparation of the  
2 parathyroid hormone receptor of claim 20.

1           22. An essentially purified preparation of the  
2 parathyroid receptor produced by the expression of the DNA  
3 of claim 5.

1           23. A polypeptide comprising at least six amino  
2 acids and less than the complete amino acid sequence of a  
3 parathyroid hormone receptor, said polypeptide capable of  
4 binding parathyroid hormone or parathyroid hormone-related  
5 protein.

1           24. The polypeptide of claim 23, wherein said  
2 parathyroid hormone receptor is a human parathyroid  
3 receptor.

1           25. The polypeptide of claim 23, wherein said  
2 fragment comprises

- 3           (a) TNETREREVFDRLGMIYTVG,  
4           (b) YLYSGFTLDRAERLTEEEL,  
5           (c) VTFFLYFLATNYWILVEG,  
6           (d) Y-RATLANTGCWDLSSGHKKWIIQVP,  
7           (e) PYTEYSGTLWQIQMHYEM,  
8           (f) DDVFTKKEEQIFLLHRAQA,  
9           (g) FFRLHCTRNY,  
10          (h) EKKYLWGFTL,  
11          (i) VLATKLRETNAGRCQYRQYRKLLK, or  
12          (j) a fragment of (a) - (i) which is capable of  
13 binding parathyroid hormone or parathyroid hormone-related  
14 protein.

1           26. A therapeutic composition comprising, in a  
2 pharmaceutically-acceptable carrier, (a) a parathyroid  
3 hormone receptor or (b) a polypeptide comprising a fragment  
4 of said receptor.

1           27. An antibody capable of forming an immune  
2 complex with a parathyroid hormone receptor.

1           28. A therapeutic composition comprising the  
2 antibody of claim 27 and a pharmaceutically-acceptable  
3 carrier.

1           29. A method of reducing the level of calcium in  
2 the blood of a mammal, which method comprises administering

SECRET-428600

30. A method of reducing the level of calcium in the blood of a mammal, which method comprises administering the therapeutic composition of claim 28 to said mammal in a dosage effective to inhibit activation by parathyroid hormone or parathyroid hormone-related protein of a parathyroid hormone receptor of said mammal.

4 (a) contacting the polypeptide of claim 23 with a  
5 parathyroid hormone, (i) in the presence or (ii) in the  
6 absence of a candidate compound; and

1           32. A method for identifying a compound capable of  
2 competing with a parathyroid hormone-related protein for  
3 binding to a parathyroid hormone receptor, said method  
4 comprising:

(b) comparing (i) the level of binding of said polypeptide to said parathyroid hormone-related protein in the presence of said candidate compound, with (ii) the level of binding of said polypeptide to said parathyroid hormone-related protein in the absence of said candidate compound; a lower level of binding in the presence of said candidate compound than in its absence indicating that said candidate compound is capable of competing with said parathyroid hormone-related protein for binding to said receptor.

4 (a) combining a parathyroid hormone with the cell  
5 of claim 11, (i) in the presence or (ii) in the absence of a  
6 candidate compound; and

(b) comparing (i) the level of binding of said receptor to said parathyroid hormone in the presence of said candidate compound, with (ii) the level of binding of said receptor to said parathyroid hormone in the absence of said candidate compound; a lower level of binding in the presence of said candidate compound than in its absence indicating that said candidate compound is capable of competing with said parathyroid hormone for binding to said receptor.

1           34. A compound capable of inhibiting the binding of  
2 parathyroid hormone or parathyroid hormone-related protein  
3 to a parathyroid receptor on the surface of a cell.

1           35. A therapeutic composition comprising the  
2 compound of claim 34 and a pharmaceutically-acceptable  
3 carrier.

1           36. A method for identifying a DNA sequence  
2 homologous to a parathyroid hormone receptor-encoding DNA  
3 sequence, said method comprising:  
4           providing a genomic or cDNA library;  
5           contacting said library with the single-  
6 stranded DNA of claim 18, under conditions permitting  
7 hybridization between said single-stranded DNA and a  
8 homologous DNA sequence in said library; and  
9           identifying a clone from said library which  
10 hybridizes to said single-stranded DNA, said hybridization  
11 being indicative of the presence in said clone of a DNA  
12 sequence homologous to a parathyroid hormone receptor-  
13 encoding DNA sequence.

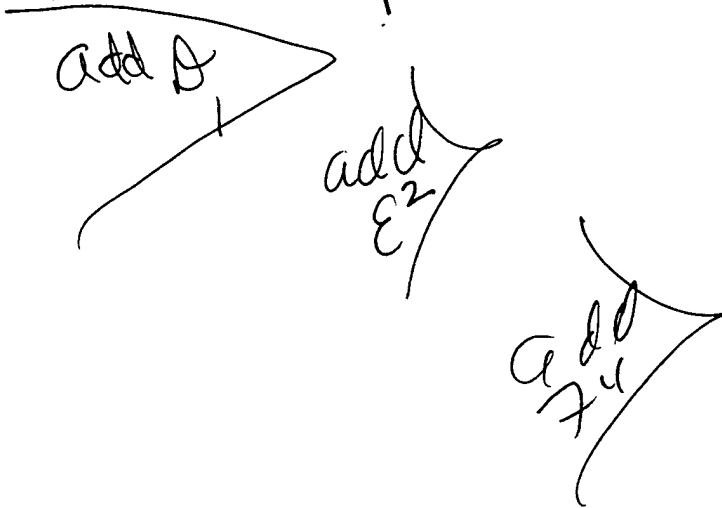
1           37. A transgenic non-human vertebrate animal  
2 bearing a transgene comprising a DNA sequence encoding  
3 parathyroid hormone receptor or a fragment thereof.

1           38. A diagnostic method comprising:  
2           (a) obtaining a first blood sample from an animal;  
3           (b) administering the composition of claim 35 to  
4 said animal;  
5           (c) obtaining a second blood sample from said  
6 animal subsequent to said administration of said  
7 composition; and  
8           (d) comparing the calcium level in said first blood  
9 sample with that in said second blood sample, a lower  
10 calcium level in said second blood sample being diagnostic  
11 for a parathyroid hormone-related condition.

SECRET-4236760

12 39. The isolated DNA of claim 1, wherein said DNA  
13 sequence encodes a parathyroid hormone receptor.

1



SECRET - 16366760